U.S. Department of Justice

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Office of the Director

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Letter from the Director of the National Institute of Justice,

To protect the public, the first responder and law enforcement communities must be able to communicate effectively. Historically, there have been many technological impediments to timely and effective sharing of information. Communication interoperability has been a persistent problem, along with issues concerning spectrum availability, embedded infrastructure, and immature standards. A solution to this national issue can only be achieved through the recognition of the problem and a cooperative effort for its resolution at all levels of government and industry.

To assist in finding solutions, the Department of Justice through the National Institute of Justice (NIJ) supported the National Task Force on Interoperability (NTFI) and its development of a series of guides, entitled: *When They Can't Talk Lives are Lost*, as well as *Why Can't We Talk?, Working Together to Bridge the Communications Gap to Save Lives, A Guide for Public Officials*. These guides highlight the crucial issue of communication interoperability and provide information on critical topics, including governance, funding, and radio spectrum use.

As part of a comprehensive federal government effort to address communication interoperability issues, NIJ is reissuing updated versions of the NFTI guides. Our support of NTFI and the development of these documents are but one of the ways that NIJ is approaching the problem. NIJ continues to support information technology development and information standards to support the law enforcement and first responder communities. We hope these guides and other publications available on our website at http://www.nijcommtech.org/ will help illuminate communications interoperability issues and encourage members of the first responder and law enforcement communities to work with the federal government in forging solutions.

Sincerely

Sarah Hart

Sarah Hart
Director

Why Can't We Talk?

Working Together to Bridge the Communications Gap to Save Lives

A Guide for Public Officials

On September 11, 1996, 5 years to the day before the 9/11 terrorist attack, the Public Safety Wireless Advisory Committee (PSWAC) released its final report, which stated that "unless immediate measures are taken to alleviate spectrum shortfall and promote interoperability, public safety will not be able to adequately discharge their obligation to protect life and property in a safe, efficient, and cost-effective manner." Several years later, public safety is still grappling with inadequate spectrum and radio communication systems that do not communicate with one another.

In an era where technology can bring news, current events, and entertainment to the farthest reaches of the world, many law enforcement officers, firefighters, and emergency medical service personnel working in the same jurisdiction cannot communicate with one another. The inability of our public safety officials to readily communicate with one another threatens the public's safety and often results in unnecessary loss of lives and property. Recognizing that solutions to this national issue can only be achieved through cooperation between all levels of government, 18 national associations representing State and local elected and appointed officials and public safety officials formed a task force to address this issue. This guide is the result of the significant commitment by members of this task force who shared their knowledge, experience, and wisdom. Member associations include the following organizations.

- National Institute of Justice, Communications Technology Program (CommTech)
- Department of Homeland Security, SAFECOM program
- Association of Public Safety Communications Officials - International, Inc.
- International Association of Chiefs of Police
- International Association of Fire Chiefs
- International City/County Management Association
- Major Cities Chiefs
- Major County Sheriffs' Association
- National Association of Counties
- National Association of State Chief Information Officers
- National Association of State Telecommunications Directors
- National Conference of State Legislatures
- National Criminal Justice Association
- National Emergency Management Association
- National Governors Association
- National League of Cities
- National Public Safety Telecommunications Council
- National Sheriffs' Association
- The Council of State Governments
- The United States Conference of Mayors

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For more information on interoperability, updated material, and supplemental resources to this guide, visit www.nijcommtech.org

Executive Summary
Why Can't We Talk?

NEW YORK CITY—*Hundreds of firefighters and police officers rushed to a devastating, chaotic scene to rescue victims from the attack on the World Trade Center. As police and firefighters swarmed the building searching for survivors, incident commanders outside were hearing warnings from helicopters circling the scene from above that the towers were beginning to glow and were dangerously close to collapse. Radio communications were a lifeline for the hundreds of police officers who received the word to evacuate the building—all but 60 police officers escaped with their lives. Tragically, hundreds of New York firefighters didn't receive that warning because they were using a different radio communications system. Totally unaware of the impending collapse, at least 121 firefighters, most within striking distance of safety, according to The New York Times, died. A report from the University of New Hampshire-based, ATLAS Project stated, "From numerous interviews gathered as part of a fire department inquiry into the events of September 11th, it would appear that non-interoperability was at least partially responsible for the loss of 343 firefighters at the World Trade Center."*

LITTLETON, COLORADO—*A few years earlier in Littleton, Colorado, 46 public safety agencies responded to the shooting spree inside Columbine High School. Precious minutes were lost because command personnel were forced to send runners to communicate crucial information. Incompatible radio communication systems were a significant factor, according to the Columbine Review Commission.*

OKLAHOMA CITY, OKLAHOMA—*Similarly, in the immediate aftermath of the Oklahoma City bombing, the ATLAS Project reports that first responders had to use runners to carry messages from one command center to another because the responding agencies used different emergency radio channels, different frequencies, and different radio systems.*

OHIO RIVER, INDIANA—*As floodwaters from the Ohio River rose to record levels, the Department of Natural Resources, the Indiana National Guard, the State Emergency Management Agency, and local law enforcement agencies fought to protect the lives and the property of people in dozens of southern Indiana communities, towns, and cities. According to the Indiana Department of Natural Resources, communication between the responding agencies was crucial to the rescue effort. However, the only interagency communications were public safety officials literally yelling to each other across the flooded rivers because their radio systems were incompatible.*

Did you know?

You grew up watching cop shows on television. When the police were in trouble, they could pick up the radio anywhere, anytime, and help would instantly arrive. In reality, this is often not the case. Did you know that law enforcement, emergency medical services (EMS), and firefighters sometimes have to juggle as many as five different radios because each agency communicates on different systems? Do you know how often agencies cannot talk to one another or to agencies in their neighboring cities, counties, or States? Is yours one of them?

While events of the magnitude of 9/11 or Oklahoma City do not occur every day, there are many other daily events that require different agencies and different jurisdictions to be able to communicate with one another. Incidents such as traffic accidents, missing children, fires, high-speed chases, rescues, and chemical spills occur with frightening regularity and they know no boundaries. When they occur in your community, region, or State, will your public safety agencies be able to talk to one another?

"It is more than obvious that something is wrong when the only way for police officers from neighboring departments to communicate with one another is to pull their cruisers side by side and roll down their windows."

TechBeat, Fall 2000, National Institute of Justice

What is interoperability?

It is the ability of public safety agencies to talk to one another via radio communication systems—to exchange voice and/or data with one another on demand, in real time, when needed. Most people assume that public safety is already interoperable. In many cases, public safety officers cannot even talk to their own agencies.[1]

Public perceptions are shaped by the news shows and articles, movies, and television that tell a different story from the true state of public safety communications. The public that reads news stories about computers in patrol cars, amazing life-saving technologies in rescue vehicles, and the latest state-of-the-art dispatch center may find it difficult to believe that their public safety agencies cannot talk to one another.

Public safety agencies can't talk to one another—why not?

Five key reasons—incompatible and aging communications equipment, limited and fragmented funding, limited and fragmented planning, a

1. Interoperability refers to the ability to exchange both voice and data communications. When the word "talk" is used throughout this guide, it refers to data as well as voice communications.

lack of coordination and cooperation, and limited and fragmented radio spectrum. This guide examines these traditional critical barriers to interoperability and provides information on what needs to be done to overcome them and how you as a public official can help.

Los Angeles, July 2002—According to Associated Press reports, officers responding to the shooting at the El Al ticket counter at Los Angeles International Airport missed crucial information because they weren't using the same radio frequency.

WHY CAN'T WE TALK? Working Together To Bridge the Communications Gap To Save Lives, was developed as a result of the ongoing dialogue among State and local elected and appointed officials and public safety officials. In this guide, these types of officials are referred to collectively as "public officials." Public officials include elected and appointed officials at every level of government, working to serve the public in a variety of roles, such as governors, mayors, State legislators, city and county council members, city and county managers, police chiefs, fire chiefs, sheriffs, chief information officers, and chief communications officers. This guide is designed to provide public officials with easy-to-comprehend information on interoperability.

- *Why Can't Public Safety Agencies Talk?,* discusses the definition of interoperability, the importance of interoperability to public officials, and the role public officials play in interoperability.

- *Five Key Reasons Why Public Safety Agencies Can't Talk,* discusses the barriers to interoperability—incompatible and aging communications equipment, limited and fragmented planning and funding, a lack of coordination and cooperation, and limited and fragmented radio communications spectrum.

- *Are You Prepared?,* discusses evaluation and assessment of public safety radio communication systems and financial resources and provides interim technology strategies to achieve interoperability.

- *How Can You Achieve Interoperability?,* discusses planning for interoperability, and the role of elected and appointed officials in the planning process.

- *Governance Structures for Improving Interoperability,* discusses what a governance structure is and why it is necessary, examples of mechanisms for creating governance structures and the key element of leadership.

- *Funding Strategies for Achieving Interoperability,* discusses developing a funding strategy, cost-cutting measures, presenting the case for funding interoperability and financing methods.

- *Why Radio Spectrum Matters to You,* provides a historical perspective of spectrum, a discussion of the additional spectrum that has been allocated but not yet made available to public safety, and technologies that can increase the efficient use of spectrum.

Where are you now? What is the status of your public safety radio communications?

The basic questions to consider are: What types of emergencies typically occur in your community, region, or State and which public safety agencies would respond to each of them? Some incidents like traffic accidents occur daily. How about major crimes like bank robberies or large-scale fires or natural disasters like hurricanes? Who needs to talk to one another every day? Who should be able to communicate and share data in the first 8 hours of an emergency? Who will need to be added to that initial group if the emergency continues for longer than 8 hours? Once you know the answers to these questions, assess your resources. For example, what existing communications infrastructure such as radio towers do you already have? What financial resources are budgeted for public safety communications? This guide provides suggested tools for beginning to answer these and other questions.

How much will this cost?

There are several issues to consider, including what is ***already*** being spent on public safety communications in your area and how much it will cost if you ***do not*** develop interoperability. Planning for interoperability can be incorporated into the process of replacing and upgrading radio communication systems. Individual costs will depend on the state of communications in your area and which short- and long-term direction you choose to follow. The nationwide investment in radio systems and supporting infrastructures is substantial. As agencies replace aging equipment and adopt new technologies, the amount of money invested in communications equipment will continue to grow. This guide provides ideas on how to reduce costs and identify and develop financial resources to improve interoperability.

How can you achieve interoperability?

Planning is critically important. This guide provides information on planning, establishing governance structures, and interim technology strategies.

A vision for the future—working together to bridge the communications gap to save lives

Imagine a different public safety radio communications future. A future where no person loses a life or is injured because available information could not be shared. A future where emergency responses are coordinated, where information is shared in real time, where precious minutes are not wasted, and where emergencies are handled more effectively and safely. That future can become a reality. Your role as a public official gives you the opportunity to take the initiative. Your constituents and colleagues need to be educated about the importance of reliable, interoperable, robust public safety radio communication systems that will make it possible for local, State, and Federal public safety agencies to talk to one another by radio, to share data, to coordinate life-saving operations, and to provide a basic level of public safety. This is a job that requires public officials across jurisdictions to work together for the common good—to plan, fund, build, and govern interoperable public safety communications systems. Public officials at all levels need to put aside individual political concerns to collaborate on acceptable communications interoperability for emergency response and incident prevention. It begins with a dialogue among the stakeholders.

This guide is for you

This guide was written to provide guidance for you—public officials at all levels—local, regional, State, and national. This includes, among others, governors, mayors, council members, legislators, city and county executives, city and county managers, police chiefs, fire chiefs, emergency management personnel, and chief information and technology officers. Because the guide was written for many audiences, it is intentionally broad in its message and not specifically tailored for one group or level of government. The message needs to be broad because achieving interoperability will require partnerships from you—public officials from all levels of government—working together to get the job done.